IN THE CLAIMS:

1. **(Cancelled)**

2. **(Cancelled)**

3. **(Cancelled)**

4. **(Cancelled)**

5. **(Cancelled)**

6. **(Cancelled)**

7. **(Cancelled)**

8. **(Cancelled)**

9. **(Cancelled)**

10. **(Cancelled)**

11. **(Cancelled)**

12. **(Cancelled)**

13. **(Cancelled)**

14. **(Cancelled)**

15. **(Cancelled)**

16. **(Cancelled)**

17. **(Cancelled)**

18. **(Cancelled)**

19. **(Cancelled)**

20. **(Cancelled)**

21. **(Cancelled)**

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Original) A method for establishing an imbalance correction weight threshold level in a balancer system configured to measure one or more imbalance parameters of a rotating body, comprising the steps of:

identifying at least one dimension of the rotating body;

selecting an imbalance limit associated with each of said one or more imbalance parameters;

calculating an imbalance correction weight threshold level for each of said one or more imbalance parameters utilizing said identified at least one dimension and said selected associated imbalance limit.

29. (Original) The method of Claim 28 wherein the step of identifying at least one dimension includes identifying a diameter of the rotating body; and wherein the step of calculating includes utilizing said identified diameter and a selected imbalance limit associated with a static imbalance of said rotating body.

30. (Previously Presented) A method for establishing an imbalance correction weight threshold level in a balancer system configured to measure one or more imbalance parameters of a rotating body, comprising the steps of:

identifying a diameter of the rotating body;

selecting an imbalance limit associated with a static imbalance parameter of the rotating body;

calculating an imbalance correction weight threshold level for said static imbalance parameter utilizing said identified diameter and said selected imbalance limit;

wherein the step of calculating includes solving the equation

$$W_{BS} = F_{MAX} \Big/ \left(D/2\right)$$

where

- W_{BS} is the imbalance correction weight threshold level,
- F_{MAX} is said selected imbalance limit associated with said static imbalance of the rotating body, and
- D is a diameter of a correction weight circle of the rotating body.

31. (Original) The method of Claim 28 wherein the step of identifying at least one dimension includes identifying a diameter and an axial width for placing correction weights on the rotating body; and

wherein the step of calculating includes utilizing said identified diameter, said identified axial width, and a selected imbalance limit associated with a dynamic imbalance of said rotating body.

32. (Previously Presented) A method for establishing an imbalance correction weight threshold level in a balancer system configured to measure one or more imbalance parameters of a rotating body, comprising the steps of:

identifying a diameter of the rotating body and an axial width for placing correction weights on the rotating body;

selecting an imbalance limit associated with a dynamic imbalance parameter of the rotating body;

calculating an imbalance correction weight threshold level for said dynamic imbalance parameter utilizing said identified diameter, said identified axial width, and said selected associated imbalance limit;

wherein the step of calculating includes solving the equation

$$W_{BD} = M_{MAX} / (WxD / 2)$$

where

- W_{BD} is the correction weight threshold level for said dynamic imbalance parameter,
- M_{max} is said selected associated imbalance limit,
- W is said axial width between the weight placement planes of the rotating body, and
- D is a diameter of the weight placement planes of the rotating body.

33. (Original) A method for establishing imbalance correction weight threshold levels in a balancer system configured to measure a static imbalance parameter and a dynamic imbalance parameter of a rotating body, comprising the steps of:

identifying a diameter of the rotating body;

identifying an axial width of the rotating body;

selecting an imbalance limit associated with said static imbalance parameter;

selecting an imbalance limit associated with said dynamic imbalance parameter;

calculating an imbalance correction weight threshold level for said static imbalance parameter utilizing said identified diameter and said selected imbalance limit associated with said static imbalance parameter;

calculating an imbalance correction weight threshold level for said dynamic imbalance parameter utilizing said identified diameter, said identified axial width, and a selected imbalance limit associated with said dynamic imbalance parameter.

34. (Previously Presented) A method for balancing a vehicle wheel utilizing an imbalance correction weight threshold level for a static imbalance parameter calculated utilizing an identified wheel diameter and a selected imbalance limit associated with the static imbalance parameter, and an imbalance correction weight threshold level for a dynamic imbalance parameter calculated utilizing the identified wheel diameter, an identified wheel axial width, and a selected imbalance limit associated with the dynamic imbalance parameter comprising the steps of:

obtaining a measurement of static and dynamic imbalance in the vehicle wheel;

determining static and dynamic imbalance correction weights for the vehicle wheel based upon said obtained measurements of static and dynamic imbalance;

selecting, responsive to said determined static imbalance correction weight exceeding the calculated imbalance correction weight threshold level for said static imbalance and to said determined dynamic imbalance correction weight being less than the calculated imbalance correction weight threshold level for said dynamic imbalance,

a placement position for said static imbalance correction weight which reduces said measurement of dynamic imbalance in the vehicle wheel.

35. (Original) The method of Claim 34 for balancing a vehicle wheel wherein the step of selecting a placement position for said static imbalance correction weight includes:

calculating a static imbalance correction weight placement phase angle;

calculating an inner wheel plane dynamic imbalance correction weight placement phase angle;

calculating an outer wheel plane dynamic imbalance correction weight placement phase angle;

identifying one of said inner and outer wheel plane dynamic imbalance correction weight placement phase angles which is nearest to said static imbalance correction weight placement phase angle; and

placing said static imbalance correction weight at said calculated static imbalance correction weight placement phase angle in a wheel plane corresponding to the wheel plane of said nearest identified dynamic imbalance correction weight placement phase angle.

36. (Original) A method for establishing a static imbalance correction weight threshold level for a grouping of vehicle wheel assemblies having similar characteristics in a vehicle wheel balancer system configured to measure one or more imbalance parameters of a vehicle wheel assembly, comprising the steps of:

establishing an acceptable static imbalance correction weight threshold for a vehicle wheel assembly in the grouping of vehicle wheel assemblies, said vehicle wheel assembly having a known wheel rim diameter and a known tire diameter;

identifying a vehicle wheel rim diameter and a tire diameter for a vehicle wheel assembly in the grouping of vehicle wheel assemblies having an unknown imbalance;

calculating a static imbalance correction weight threshold level said vehicle wheel assembly having an unknown imbalance utilizing the equation

$$m_1 = \frac{m_0 D_{W0}}{D_{W1}} \left(\frac{D_{T1}}{D_{T0}} \right)^2$$

where

m_1 is the calculated static imbalance correction weight threshold level;

m_0 is the established acceptable static imbalance correction weight threshold level;

D_{W0} is the known wheel rim diameter;

D_{T0} is the known tire diameter;

D_{W1} is the identified wheel rim diameter for said vehicle wheel assembly having an unknown imbalance; and

D_{T1} is the identified tire diameter for said vehicle wheel assembly having an unknown imbalance.

37. (Original) A method for selecting an imbalance correction weight threshold level for a vehicle wheel assembly having an unknown imbalance in a vehicle

wheel balancer system configured to measure one or more imbalance parameters of a vehicle wheel assembly, comprising the steps of:

identifying a grouping of vehicle wheel assemblies having similar characteristics to the vehicle wheel assembly having the unknown imbalance;

identifying an associated acceptable imbalance correction weight threshold curve for said identified grouping of vehicle wheel assemblies; and

determining a specific imbalance correction weight threshold for the vehicle wheel assembly having the unknown imbalance from said identified acceptable imbalance correction weight threshold curve and one or more characteristics of the vehicle wheel assembly having the unknown imbalance.

38. (Original) The method for selecting an imbalance correction weight threshold level of claim 37 wherein said specific imbalance correction weight threshold is a static imbalance correction weight threshold.

39. (Original) The method for selecting an imbalance correction weight threshold level of claim 37 wherein said specific imbalance correction weight threshold is a couple imbalance correction weight threshold.

40. (Original) A method for establishing a couple imbalance correction weight threshold level for a grouping of vehicle wheel assemblies having similar characteristics in a vehicle wheel balancer system configured to measure one or more imbalance parameters of a vehicle wheel assembly, comprising the steps of:

establishing an acceptable couple imbalance correction weight threshold for a vehicle wheel assembly in the grouping of vehicle wheel assemblies, said vehicle wheel

assembly having a known wheel rim diameter, wheel rim width, and a known tire diameter;

identifying a vehicle wheel rim diameter, a wheel rim width, and a tire diameter for a vehicle wheel assembly in the grouping of vehicle wheel assemblies having an unknown imbalance;

calculating a couple imbalance correction weight threshold level said vehicle wheel assembly having an unknown imbalance utilizing the equation

$$w_1 = \frac{w_0 D_{w0}}{D_{w1}} \left(\frac{D_{T1}}{D_{T0}} \right)^2 \frac{L_0}{L_1}$$

where

w_1 is the calculated couple imbalance correction weight threshold level;

w_0 is the established acceptable couple imbalance correction weight threshold level;

D_{W0} is the known wheel rim diameter;

D_{T0} is the known tire diameter;

D_{W1} is the identified wheel rim diameter for said vehicle wheel assembly having an unknown imbalance;

D_{T1} is the identified tire diameter for said vehicle wheel assembly having an unknown imbalance;

L_0 is the known wheel rim width; and

L_1 is the identified wheel rim width for said vehicle wheel assembly having an unknown imbalance.